

5. (Amended One Time) The transformed *Pichia pastoris* of Claim 3 wherein the foreign gene encoding cytochrome P450 reductase is cytochrome P450 reductase (D25327 (SEQ ID NO:43)).

6. (Amended One Time) A transformed *Pichia pastoris* strain characterized by an enhanced alkane hydroxylating activity and comprising,

a) at least one DNA fragment from *Candida maltosa* ATCC 90677 selected from the group of DNA fragments encoding cytochrome P450 monooxygenase Alk1-A (SEQ ID NO:35) and cytochrome P450 monooxygenase Alk3-A (SEQ ID NO:37); and, optionally,

b) at least one DNA fragment from *Candida maltosa* ATCC 90677 encoding cytochrome P450 reductase,
each DNA fragment operably linked to suitable regulatory elements such that alkane hydroxylating activity is enhanced upon contact with at least one C₆ to C₂₂ straight chain hydrocarbon.

8. (Amended One Time) A method for the enhanced bioproduction of C₆ to C₂₂ mono- and di-carboxylic acids comprising

a) contacting, under aerobic conditions, a transformed *Candida maltosa* characterized by a genetically-engineered, enhanced alkane hydroxylating activity with at least one C₆ to C₂₂ straight chain hydrocarbon; and

b) recovering the C₆ to [C₂₂] C₂₂ mono- and di-carboxylic acids.

9. (Amended One Time) The method of Claim 8 wherein

a) the genetically-engineered, enhanced alkane hydroxylating activity arises from

i) at least one additional copy of the genes encoding cytochrome P450 monooxygenase selected from the group consisting of Alk1-A (D12475 (SEQ ID NO:35)), Alk2-A (X55881 (SEQ ID NO:36)), Alk3-A (X55881 (SEQ ID NO:37)), Alk4-A (D12716 (SEQ ID NO:38)), Alk5-A (D12717 (SEQ ID NO:39)), Alk6-A (D12718 (SEQ ID NO:40)), Alk7 (D12719 (SEQ ID NO:41)), and Alk8 (D12719 (SEQ ID NO:42)); or

ii) at least one additional copy of the gene encoding cytochrome P450 reductase (D25327); or

iii) at least one additional copy of both the genes of i) and ii);

b) the at least one C₆ to C₂₂ straight chain hydrocarbon is dodecane; and

c) the product recovered is dodecanedioic acid.

10. (Amended One Time) A transformed *Candida maltosa* comprising

a) at least one additional copy of [a] an integrated gene encoding cytochrome P450 monooxygenase; or

b) at least one additional copy of [a] an integrated gene encoding cytochrome P450 reductase; or

c) at least one additional copy of both the integrated gene encoding P450 monooxygenase and the integrated gene encoding cytochrome P450 reductase, each integrated gene operably linked to suitable regulatory elements such that alkane hydroxylating activity is enhanced upon contact with at least one C₆ to C₂₂ straight chain hydrocarbon.

11. (Amended One Time) The transformed *Candida maltosa* of Claim 10 wherein the genes encoding cytochrome P450 monooxygenase are selected from the group consisting of Alk1-A (D12475 (SEQ ID NO:35)), Alk2-A (X55881 (SEQ ID NO:36)), Alk3-A (X55881 (SEQ ID NO:37)), Alk4-A (D12716 (SEQ ID NO:38)), Alk5-A (D12717 (SEQ ID NO:39)), Alk6-A (D12718 (SEQ ID NO:40)), Alk7 (D12719 (SEQ ID NO:41)), and Alk8 (D12719 (SEQ ID NO:42)).

12. (Amended One Time) The transformed *Candida maltosa* of Claim 10 wherein the gene encoding cytochrome P450 reductase is cytochrome P450 reductase (D25327 (SEQ ID NO:43)).

13. (Amended One Time) A transformed *Candida maltosa* strain comprising
a) at least one DNA fragment from *Candida maltosa* (ATCC 90677) selected from the group of DNA fragments encoding cytochrome P450 monooxygenase [ALK1-A] Alk1-A (SEQ ID NO:35) and cytochrome P450 monooxygenase [ALK3-A] Alk3-A (SEQ ID NO:37), and

b) at least one DNA fragment from *Candida maltosa* (ATCC 90677) encoding cytochrome P450 reductase,
each gene operably linked to suitable regulatory elements such that alkane hydroxylating activity is enhanced upon contact with at least one C₆ to C₂₂ straight chain hydrocarbon.

16. (Amended One Time) A transformed *Candida maltosa* characterized by [a β -oxidation pathway functionally blocked by] disruption of no more than both POX4 genes encoding acyl-CoA oxidase whereby a β -oxidation pathway is functionally blocked.

20. (Amended One Time) A transformed *Candida maltosa* characterized by
a) an enhanced alkane hydroxylating activity arising from
i) at least one additional copy of a gene encoding cytochrome P450 monooxygenase selected from the group consisting of Alk1-A (D12475 (SEQ ID NO:35)), Alk2-A (X55881 (SEQ ID NO:36)), Alk3-A (X55881 (SEQ ID NO:37)), Alk4-A (D12716 (SEQ ID NO:38)), Alk5-A (D12717 (SEQ ID NO:39)), Alk6-A (D12718 (SEQ ID NO:40)), Alk7 (D12719 (SEQ ID NO:41)), and Alk8 (D12719 (SEQ ID NO:42)), or
ii) at least one additional copy of a gene encoding cytochrome P450 reductase (D25327 (SEQ ID NO:43)), or
iii) at least one additional copy of both the genes i) and ii); and
b) a β -oxidation pathway functionally blocked by disruption of both POX4 genes encoding acyl-CoA oxidase.